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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,568	03/25/2004	Ju-Kau Chen	252011-2050	7976

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EXAMINER	
VON BUHR, MARIA N	

ART UNIT	PAPER NUMBER
2125	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,568	CHEN ET AL.	
	Examiner	Art Unit	
	Maria N. Von Buhr	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 are pending in this application.

2. Examiner acknowledges receipt of Applicant's formal drawings. These drawings are acceptable.

3. The specification is objected to, because the first occurrence of any abbreviation/acronym must be accompanied by its definition. In this case, "WIP" (page 2 of the specification) has not been defined.

4. The following is a quotation of the second paragraph of 35 U.S.C. §112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which Applicant regards as his invention.

5. Claims 1-30 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In claims 1, 9 and 16, there is no clear and proper antecedent basis for "the tool group" (each occurrence), since a plurality have been previously provided for, nor for "the workload allocation." There is also no functional antecedence for any such workload allocation being "in the first manufacturing plan."

Further in claim 1, the first occurrence of any abbreviation/acronym within the claim language must be accompanied by its definition. In this case, "WIP" has not been defined within the claim language as of yet.

In claims 2, 10, 17 and 25, there is no clear and proper antecedent basis for "the tool group," since a plurality have been previously provided for, nor for "the least preferred tool." Also, the phrase "least preferred tool" is one of degree, and hence has no clear metes and bounds. Additionally, the phrase has not been defined, and there is no clear nexus to the remainder of the claim language, since no preferences of any kind have been introduced and/or characterized, such that context exists for a "least" preference (i.e.; in relation to others). Also, there are no clear metes and bounds for the phrase "unlimited capacity," since the term "unlimited" itself has no metes and bounds. Additionally, the context for such a capability is indefinite, since no known tools are actually capable of providing for such capacity. This presents ambiguity with regard to actual accomplishment of such a claimed characteristic. In other words, the limitation has been presented as a mere statement of desired result, without any support within the body of the claims.

In claims 3, 11, 18 and 26, there is no clear and proper functional antecedence for "workload allocation of the virtual tool specified in the first manufacturing plan," since no such specifying has been previously provided for. Further in claim 26, there is no clear and proper antecedence of any kind for any "workload allocation of the virtual tool."

In claims 4, 12, 19 and 27, there is no clear and proper antecedent basis for "the backup request tool group." Further in claim 27, there is no clear and proper antecedent basis for "the workload allocation of the virtual tool."

In claims 5, 13, 20 and 28, there is no clear and proper antecedent basis for "the backup demand."

In claims 6, 14, 21 and 29, there is no clear and proper antecedent basis for "the backup operation." Further in claims 14, 21 and 29, there is no clear and proper antecedent basis for "the backup supply tool group."

In claims 7, 15, 22 and 30, there is no clear and proper antecedent basis for "the backup supply tool group" nor for "the backup request tool group."

In claims 8 and 23, there is no clear and proper antecedent basis for "the tool," since a plurality have been previously provided for.

In claim 24, there is no clear and proper antecedent basis for "the tool group" (each occurrence), since a plurality have been previously provided for."

6. The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 2, 10, 17 and 25 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In this regard, there is no enablement for the providing of "unlimited capacity." Although the instant specification does assert such a capability, there is no description for how it is actually achieved, which necessitates the interpretation that the claimed limitation is merely a statement of desired result, which has not actually been enabled by the instant specification.

8. Due to the ambiguities and confusion in claims 2, 10, 17 and 25, no art has been applied thereto, see *In re Steele*, 49 CCPA 1295, 305 F.2d 859, 134 USPQ 292 (1962) and *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). The examiner will not speculate as to the intended meaning.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by Applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 3-9, 11-16, 18-24 and 26-30 are rejected under 35 U.S.C. §102(a) and (b) as being clearly anticipated by Ho et al. (U.S. Patent No. 6,678,566 and U.S. Patent Application Publication 2002/0165629, respectively), which disclose a backup control system, wherein "within both a method for operating a plurality of fabrication facilities and a system for operating the plurality of fabrication facilities there is providing within each of the plurality of fabrication facilities a corresponding plurality of backup control systems ... and each backup control system is programmed to forward a request for fabrication in a remote fabrication facility within the plurality of fabrication facilities and receive a request for fabrication from a remote fabrication facility within the plurality of fabrication facilities. The method and the system are particularly useful for fabricating semiconductor integrated circuit microelectronic fabrications" (abstract of '629).

As per claims 1, 3-5, 9, 11-13, 16, 18-20, 24 and 26-28, Ho et al. teach that "in the art of fabricating modern microelectronic fabrications, and in particular in the art of fabricating modern semiconductor integrated circuit microelectronic fabrications, there is typically employed a computer assisted production control routing system to route a plurality of microelectronic fabrication work in process (WIP) workload lots having a corresponding plurality of microelectronic fabrication routing requirements through a plurality of microelectronic fabrication tools positioned within a microelectronic fabrication facility. Such a computer assisted production control routing system may comprise, in part or in whole, a manufacturing execution system (MES) as employed within the microelectronic fabrication facility. Similarly, it is also common in the art of microelectronic fabrication for microelectronic fabrication manufacturers to operate a plurality microelectronic fabrication facilities, geographically clustered and/or geographically dispersed, but often with at least partially overlapping microelectronic fabrication product sets fabricated within the plurality of microelectronic fabrication facilities while

employing generally similar and/or at least partially overlapping microelectronic fabrication tool sets positioned within the plurality of microelectronic fabrication facilities" (paragraphs 4-5 of '629). Ho et al. further teach that "there is first provided a plurality of fabrication facilities, where each fabrication facility is controlled by a separate corresponding manufacturing execution system. There is also provided within each of the plurality of fabrication facilities, and connected with each of the separate corresponding manufacturing execution systems, a corresponding plurality of backup control systems, where each backup control system is connected with the remaining backup control systems within the remaining fabrication facilities within the plurality of fabrication facilities. Within the present invention, each backup control system is programmed to forward a request for fabrication in a remote fabrication facility within the plurality of fabrication facilities and receive a request for fabrication from a remote fabrication facility within the plurality of fabrication facilities. Similarly, within the method of the present invention, each of the backup control systems may also be programmed to monitor fabrication progress of a fabrication request with a remote fabrication facility within the plurality of fabrication facilities. Finally, within the method of the present invention there is then initiated through a backup control system within a fabrication facility within the plurality of fabrication facilities a request for fabrication within a remote fabrication facility within the plurality of fabrication facilities" (paragraph 18 of '629). Such forwarding of fabrication requests inherently/necessarily modifies the existing manufacturing schedule/MES, based upon capacity information, as recognized in Ho et al., which further teaches "with respect to the backup control system BCSx within the requesting fabrication facility Fab X, there is first entered a series of instructions which: (1) change the lot status of a work in process (WIP) workload lot while deleting the work in process (WIP) workload lot from a manufacturing execution system (MES) within the requesting fabrication facility Fab X; and (2) generate a backup out of facility lot status file (BKOUTMAIN) and an out of facility operations history file (OUTOPEHS) for the work in process (WIP) workload lot" and "to accept a backup fabrication request, the backup control system BCSy within the supporting fabrication facility Fab Y provides for creation of a work in process (WIP) workload routing within the manufacturing execution system (MES) within the supporting fabrication facility Fab Y; while (2) updating the status of the backup in facility lot status file for the requested backup fabrication request and updating the in facility operations history file for the requested backup fabrication request within the supporting fabrication facility Fab Y" (paragraphs 42, 53 and 55 of '629).

As per claims 6, 7, 14, 15, 21, 22, 29 and 30, Ho et al. further teach that "in accord with the fabrication process action which corresponds with reference numeral 10, the requesting fabrication facility Fab X first issues a backup fabrication request start to the supporting fabrication facility Fab Y. Further in accord with the fabrication process action which corresponds with reference numeral 12, the

backup fabrication request start issued in accord with reference numeral 10 may be canceled by the requesting fabrication facility Fab X after the backup fabrication request start in accord with reference numeral 10 has been issued to the supporting fabrication facility Fab Y. This feature is particularly desirable within the context of the present invention and the preferred embodiment of the present invention under circumstances where a plurality of potential supporting fabrication facilities is polled for an ability to undertake and complete a particular backup fabrication request, and at least one potential supporting fabrication facility within the plurality of potential supporting fabrication facilities has responded affirmatively and has been chosen prior to a response from other of the potential supporting fabrication facilities. Thus within the present invention and the preferred embodiment of the present invention, fabrication requests from a requesting fabrication facility may be issued to single supporting fabrication facility or multiple supporting fabrication facilities" (paragraph 47 of '629). This inherently will produce consequential situations which produce the characteristics instantly claimed.

As per claims 8 and 23, Ho et al. teach applicability of the taught system as being for "modern microelectronic fabrications, and ... modern semiconductor integrated circuit microelectronic fabrications" (paragraph 4 of '629; also, see paragraphs 32-33 of '629).

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Applicant is advised to carefully review the cited art, as evidence of the state of the art, in preparation for responding to this Office action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria N. Von Buhr whose telephone number is 571-272-3755. The examiner can normally be reached on M-F (9am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maria N. Von Buhr
Primary Patent Examiner
Art Unit 2125

MNVB
9/8/05